

## Early Models of the Universe

### **1. Geocentric**

Developed by Ptolemy in 140- believed that the Earth was the center of the universe and that everything else (planets, sun and moons) revolved around it.

### **2. Heliocentric**

Developed by Copernicus 1500 years later- believed that the sun was the center of the universe and everything else revolved around it.

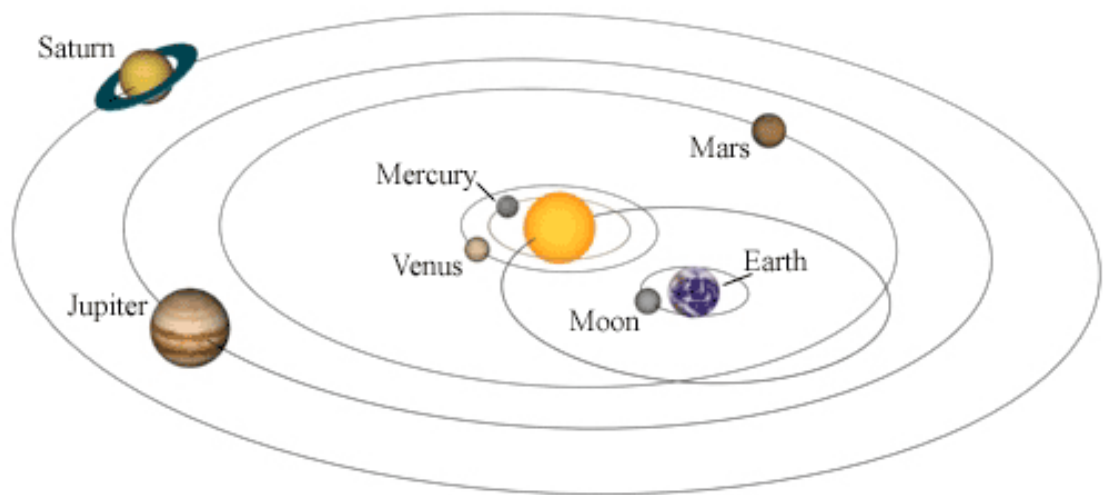
Both incorrectly thought that our solar system was the only one in the universe.

<http://www.courses.vcu.edu/PHYS-aab/PHYZ103/CourseFiles/Retrograde%20Lab.pdf>

<http://www.astro.utoronto.ca/~zhu/ast210/both.html>

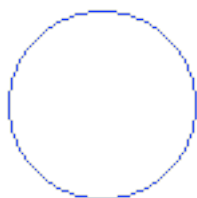
## Other Early Astronomers

**Brahe** – Believed that the sun and moon revolved around the earth and all the other planets revolved around the sun



Although he was wrong, he collected a lot of data on the planets

**Kepler**- Believed that all planets revolved around the sun in an elliptical orbit



Circle



Ellipse

**Galileo-** One of the first to use the telescope to study space. Discovered craters on the moon, four of Jupiter's moons and sunspots on the sun



**Newton-** Discovered gravity, which he said depended on the mass of the objects and the distance between them. This is why the planets orbit around the sun.

**Hubbel-** Discovered that our galaxy, the Milky Way was not the only one in the universe

In the 1990's NASA named their high tech telescope after him

